

(Billing Code:)

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

DOCKET NO.:

AGENCY: National Weather Service (NWS), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce (DOC).

ACTION: Notice and Request for Proposals.

SUMMARY: This program represents a NOAA/NWS effort to create a cost-effective continuum of basic and applied research through collaborative research between the Hydrology Laboratory of the NWS Office of Hydrologic Development and academic communities or other private or public agencies which have expertise in the hydrometeorologic, hydrologic, and hydraulic routing sciences. These activities will engage researchers and students in basic and applied research to improve the scientific understanding of river forecasting. Ultimately these efforts will improve the accuracy of forecasts and warnings of rivers and flash floods by applying scientific knowledge and information to NWS research methods and techniques, resulting in a benefit to the public. NOAA's program is designed to complement other agency contributions to that national effort.

DATES: Proposals are due no later than 5 pm Eastern Standard Time on December 19, 2003. Proposals received after December 19, 2003, will not be accepted. We anticipate a review of full proposals will begin during January 2004, and funding should begin during early summer 2004 for most approved projects. June 1, 2004, should be used as the proposed start date on proposals. Applicants should be notified of their status within 3 months of the closing date. All proposals must be submitted in

accordance with the guidelines below. Failure to follow these guidelines will result in proposals being returned to the submitter.

ADDRESSES: Proposals must be submitted to NOAA/NWS; 1325 East-West Highway, Room 8348; Silver Spring, Maryland 20910-3283.

FOR FURTHER INFORMATION CONTACT: Dr. George Smith by phone at 301-713-0640 ext. 117, or fax to 301-713-0963, or via internet at george.smith@noaa.gov.

SUPPLEMENTARY INFORMATION:

Authority

Weather Service Organic Act, 15 U.S.C. 313

Catalog for Federal Domestic Assistance

This program is designated under Catalog for Federal Assistance number 11.462, Hydrologic Research.

Funding Availability

NOAA/NWS believes its warning and forecast mission will benefit significantly from a strong partnership with outside investigators. Current program plans assume the total resources provided through this announcement will support extramural efforts through the broad academic community. Because of Federal budget uncertainties, it has not been determined how much money will be available through this announcement. It is also uncertain exactly when the funding from the Federal budget will be available.

Proposals should be prepared assuming an annual budget of no more than \$125,000. It is expected that approximately four to eight awards will be made, depending on availability of funds. This program announcement is for projects to be conducted by

research investigators for a 1-year, 2-year, or 3-year period. When a proposal for a multi-year award is approved, funding will initially be provided for only the first year of the program. If an application is selected for initial funding, NOAA/NWS has no obligation to provide additional funding in connection with that award in subsequent years. Funding for each subsequent year of a multi-year proposal is at the discretion of the NOAA/NWS. It will be contingent upon satisfactory progress in relation to the stated goals of the proposal to address specific science needs and priorities of the NWS and the availability of funds. Applications must include a scope of work and a budget for the entire award period. Each funding period must be discrete and clearly distinguished from any other funding period.

The funding instrument for extramural awards will be a cooperative agreement since NOAA/NWS/OHD/HL will be substantially involved in the work. Examples of substantial involvement may include, but are not limited to, data sharing, work on specific tasks in the scope of work, publication of results, and proposals for collaboration between NOAA/NWS/OHD/HL scientists and a recipient scientist and/or contemplation by NOAA of detailing Federal personnel to work on proposed projects. Contractual arrangements for services and products for delivery to NOAA are not available under this announcement. A matching share is not required by this program.

Program Objectives

The objective of this program is to improve the general understanding of the science of river and flash flood forecasting. This objective includes efforts to improve the overall forecast and warning capabilities of the NWS river and flash flood forecast mission by addressing the following national science priorities through collaborative efforts between

NOAA/NWS and academic/other institutions: derivation of observed and forecast values of all model forcings including precipitation, temperature, and evaporation; Quantitative precipitation estimation (QPE) and forecasting (QPF), including precipitation type and probabilistic QPF; Flash flood and river prediction (deterministic and probabilistic); Prediction of seasonal-to-interannual and decadal climate variability, and the impacts of these variabilities on extreme weather events.

NWS/OHD/HL has science priorities in three broad areas: hydrometeorology, hydrologic modeling, and river mechanics. -Applicants should send completed proposals to the NOAA/NWS program office identified earlier. Research priorities in each area are described below.

Program Priorities

NOAA will give sole attention to individual proposals addressing the identified science priorities listed below. Proposals must clearly specify which primary science priorities are being addressed.

A goal of this call for proposals is to foster long-term collaborative interactions between academic communities or other private or public agencies NWS. Proposals should clearly state the role of each PI in the project, including substantial documented involvement in the proposal.

NWS/OHD/HL Hydrometeorological Science Priorities:

Quantitative precipitation estimation and hydrometeor identification using remote and in-situ; methods for estimating and predicting precipitation, temperature, or evapotranspiration, especially in remote or mountainous terrain. Forecast may be

deterministic, probabilistic, or ensemble; methods for automated quality control of rain gauge or radar data; use of Numerical Weather Prediction (NWP) models; and downscaling and rescaling of NWP output to scales relevant to hydrologic forecasting.

NWS/OHD/HL Hydrologic Modeling Priorities

The development of advanced methods of calibrating conceptual and physically based rainfall/runoff models; the development of distributed modeling approaches, including: parameterization of distributed rainfall/runoff models and channel flow models; the use of distributed models for simultaneous simulation at both parent basin outlets and interior points for flash flood forecasting, conceptual and physically based rainfall/runoff models, and analysis of variability of precipitation and basin physical features and subsequent effects on hydrologic processes.

Cold season processes: this area includes conceptual and energy budget snow models, effects of frozen ground on the rainfall/runoff process, cold season process modeling in a distributed modeling context.

Parameterization of lumped and distributed models. Verification of deterministic and probabilistic river forecasts.

Quantification of uncertainty in river forecasts including ensemble methods.

Data assimilation methods for lumped and distributed models; Development and enhancement of land surface components of numerical weather prediction models.

Use of numerical weather model and climate model output for deterministic and probabilistic long term interseasonal water resource forecasts.

New techniques for flash flood modeling based on lumped or distributed modeling.

NWS/OHD/HL River Mechanics Priorities

Accounting for hydraulic conditions using unsteady-flow dynamic routing for real-time flood/river forecasting including sediment transport, pollutant transport, river ice modeling, channel losses, modeling the effects of hydraulic structures, reservoir modeling, mud/debris flow modeling, and dam failure modeling; improving probabilistic river forecasts; developing practical updating capabilities; and flood forecast mapping.

Eligibility

Eligible applicants are Federal agencies, institutions of higher education, other nonprofits, commercial organizations, foreign governments, organizations under the jurisdiction of foreign governments, and international organizations, state, local and Indian tribal governments. Applications from non-Federal and Federal applicants will be competed against each other. Proposals selected for funding from non-Federal applicants will be funded through a project grant or cooperative agreement under the terms of this notice. Proposals selected for funding from NOAA scientists shall be effected by an intra-agency fund transfer. Proposals selected for funding from a non-NOAA Federal agency will be funded through an inter-agency transfer. PLEASE NOTE: Before non-NOAA Federal applicants may be funded, they must demonstrate that they have legal authority to receive funds from another Federal agency in excess of their appropriation. Because this announcement is not proposing to procure goods or services from applicants, the Economy Act (31 USC 1535) is not an appropriate legal basis.

Evaluation Criteria

The evaluation criteria and weighting of the criteria are as follows:

1. Importance/relevance and Applicability of proposal to the program goals (35%)

This criterion ascertains whether there is intrinsic value in the proposed work and/or relevance to NOAA, federal, regional, state, or local activities. For the Hydrologic Research competition this includes:

How important and relevant is the proposal to the hydrometeorologic, hydrologic, and hydraulic sciences involved in river and flash flood forecasting? What is the likelihood of the proposed science activities to improve the general scientific understanding of river and flash flood forecasting? Does the proposal suggest a new analysis or theory, or just an application of previously accepted approaches? What is the likelihood of the proposed science activities to improve the simulation and forecasting of rivers and flash floods?

2. Technical/scientific merit (30%)

This criterion assesses whether the approach is technically sound and/or innovative, if the methods are appropriate, and whether there are clear project goals and objectives. For the Hydrologic Research competition this includes:

What is the intrinsic scientific value and maturity of the subject and the study proposed as they relate to the specific science priorities? Were focused scientific objectives and strategies, including data management considerations, project milestones, and timeliness, used?

3. Overall qualifications of applicants (25%)

This criterion ascertains whether the applicant possesses the necessary education, experience, training, facilities, and administrative resources to accomplish the project.

For the Hydrologic Research competition this includes:

Do PIs clearly document past scientific collaborations with operational meteorologists?

Have past interactions been successful? Are researchers likely to maintain effective and consistent interactions with operational forecasts throughout the course of the proposed research program? Have researchers demonstrated the ability to conduct successful research?

4. Project costs (10%)

This criterion evaluates the budget to determine if it is realistic and commensurate with the project needs and time-frame. For the Hydrologic Research competition this includes:

Do researchers demonstrate the ability to leverage other resources? Is there a high ratio of operationally useful results versus proposed costs?

5. Outreach and education (0%)

This criterion assesses whether the project provides a focused and effective education and outreach strategy regarding NOAA's mission to protect the Nation's natural resources. The Hydrologic Research competition does not use this criterion.

Selection Process

An initial administrative review is conducted to determine compliance with requirements and completeness of the application. Merit review is conducted by peer panel reviewers. Each reviewer will individually evaluate and rank proposals using the evaluation criteria provided above. Three to seven NWS experts representing NWS Regions and Centers may be used in this process. The merit reviewers' ratings are used to produce a rank order of the proposals. The Selection Official selects proposals after considering the peer panel reviews and selection factors listed below. In making the final selections, the Selecting Official will award in rank order unless the proposal is justified to be selected out of rank order based upon one or more of the selection factors below. The Selecting Official may negotiate the funding level of the proposal. The Selecting Official makes final recommendations for award to the Grants Officer who is authorized to obligate the funds.

Selection Factors

The merit review ratings shall provide a rank order to the Selecting Official for final funding recommendations. The Selecting Official shall award in the rank order unless the proposal is justified to be selected out of rank order based upon 1, 2.d., 3, and 5 of the following factors:

1. Availability of funding
2. Balance/distribution of funds
 - a. Geographically
 - b. By type of institutions
 - c. By type of partners

- d. By research areas
- e. By project types
- 3. Duplication of other projects funded or considered for funding by NOAA/federal agencies
- 4. Program priorities and policy factors
- 5. Applicant's prior award performance
- 6. Partnerships with/Participation of targeted groups

Proposal Submission

Proposals must adhere to the five provisions under "Proposals" and the seven requirements under "Required Elements" by the deadline of COB December 19, 2003, as discussed earlier. Failure to follow these restrictions will result in proposals being returned to the submitter without review. In addition, applicants should note those provisions under "Other Requirements/Information" that must be complied with before an award can be made.

Proposals

- (1) Proposals submitted to the NOAA/NWS/HL must include the original and two unbound copies of the proposal.
- (2) Investigators are not required to submit more than three copies of the proposal. Investigators are encouraged to submit sufficient proposal copies for the full review process if they wish all reviewers to receive color, unusually sized (not 8.5x11), or otherwise unusual materials submitted as part of the proposal. Only an original version of the federally required forms and two copies are needed.

(3) The sections on prior research, project description, and all appendices related to these sections should be no more than 15 pages and should be limited to funding requests for 1- to 3-year duration. Federally mandated forms are not included within the page count.

(4) Proposals should be sent to the NWS (see ADDRESSES on Page 2).

(5) Facsimile transmissions and electronic mail submission of full proposals will not be accepted.

Required Elements

All proposals should include the following elements:

(1) Signed title page. The title page should be signed by the Principal Investigators (PIs) and the institutional representative and should clearly indicate which project area is being addressed. The PIs and institutional representative should be identified by full name, title, organization, telephone number, and address. The PIs should have substantial documented involvement in the proposal, and the proposal should clearly state the role of each PI in the project. PIs must clearly address the science and technology transfer process contained within the proposal. This includes their interactions with operational NWS units, including weather offices, River Forecast Centers, NCEP service centers, and regional offices, with the specific goal of improving operational services. The total amount of Federal funds being requested should be listed for each budget period.

(2) Abstract: An abstract must be included and should contain an introduction of the problem, rationale, and a brief summary of work to be completed. The abstract should

appear on a separate page, headed with the proposal title, institution's investigators, total proposed cost, and budget period.

(3) Results from prior research. The results of related projects supported by NOAA and other agencies should be described, including their relation to the currently proposed work. Reference to each prior research award should include the title, agency, award number, PIs, period of award, and total award. The section should be a brief summary and should not exceed two pages total.

(4) Project description. The proposed project must be defined within the context of one of the program priorities listed above, and must be completely described, including identification of the program priority problem; scientific objectives; proposed methodology; relevance to the priorities of the NWS/OHD/HL; operational applicability; scientific merit; proposed technology transfer; past collaborations, cost effectiveness of research; and the program priorities listed above. Benefits of the proposed project to the general public and the scientific community should be discussed. A year-by-year summary of proposed work must be included.

(5) Budget. Applicants must submit a Standard Form 424 "Application for Federal Assistance," including a detailed budget using the Standard Form 424a, "Budget Information--Non-Construction Programs." The form is included in the standard NOAA application kit for cooperative research agreements. The proposal must include total and annual budgets corresponding with the descriptions provided in the project description. Additional text to justify expenses should be included as necessary.

(6) Vitae. Abbreviated curriculum vitae are sought with each proposal. Reference lists should be limited to all publications in the last 3 years with up to five other relevant papers.

(7) Current and pending support. For each investigator, submit a list which includes project title, supporting agency with grant number, investigator months, dollar value, and duration. Requested values should be listed for pending support.

Other Requirements/Information.

(1) Applicants may obtain a standard NOAA application kit from the NOAA Office of Grants Management. This kit is usually available on the Office Of Grants Management website. Primary applicant Certification: All primary applicants must submit a completed Form CD-511, "Certification Regarding Debarment, Suspension, and Other Responsibility Matters; Drug-Free Workplace Requirements and Lobbying."

(2) Federal Policies and Procedures Applicable to this announcement:

A. Environmental Impact. Applicants whose proposed projects may have an environmental impact should furnish sufficient information to assist proposal reviewers in assessing the potential environmental consequences of supporting the project.

B. The Department of Commerce Pre-Award Notification of Requirements for Grants and Cooperative Agreements contained in the Federal Register notice of October 1, 2001 (66 FR 49917), as amended by the Federal Register notice published October 30, 2002 (67 FR 66109), is applicable to this solicitation.

(3) There is no guarantee that sufficient funds will be available to make awards for all qualified projects. The exact amount of funds that may be awarded will be determined in pre-award negotiations between the applicant and the NOAA representatives.

Publication of this notice does not oblige

NOAA to award any specific project or to obligate any available funds. If one incurs costs prior to receiving an award agreement signed by an authorized NOAA official, one would do so solely at one's own risk of these costs not being included under the award.

(4)Disposition of Unsuccessful Applications. Those proposals that are not ultimately selected for funding will be destroyed.

(5)If an application is selected for funding, the DOC has no obligation to provide any additional future funding in connection with the award. Renewal of an award to increase funding or extend the period of performance is at the total discretion of the DOC.

In accordance with Federal statutes and regulations, no person on grounds of race, color, age, sex, national origin, or disability shall be excluded from participation in, denied benefits of, or subjected to discrimination under any program or activity receiving financial assistance from the NOAA/NWS. The NOAA/NWS does not have a direct telephonic device for the deaf (TDD capabilities can be reached through the State of Maryland-supplied TDD contact number, 800-735-2258, between the hours of 8 a.m.-4:30 p.m.

PAPERWORK REDUCTION ACT: This notice contains collection-of-information requirements subject to the Paperwork Reduction Act. The use of Standard Forms 424 Rev (7-97)and 424A has been approved by OMB under the respective control numbers 0348-0043 and 0348-0044. Notwithstanding any other provision of law, no person is required to respond to, nor shall a person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid Office of Management and Budget control number.

EXECUTIVE ORDERS 12866 AND 12372: This notice has been determined to be not significant for purposes of E.O. 12866. Applications under this program are not subject to E.O. 12372, "Intergovernmental Review of Federal Programs."

ADMINISTRATIVE PROCEDURE ACT/REGULATORY FLEXIBILITY ACT: Notice and comment are not required under 5 U.S.C. 553(a)(2), or any other law, for rules relating to public property, loans, grants, benefits or contracts. Because notice and comment are not required, a Regulatory Flexibility Analysis, 5 U.S.C. 601 et seq., is not required and has not been prepared for this notice.

DATED:

Irwin T. David
Chief Financial Officer
for NOAA's National Weather Service